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PLEASE NOTE

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SOVIET BLOC INTERNATIONAL GEOPHYSICAL YEAR INFORMATION

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I. GENERAL

Continuous Observations at NIZMIR

The numerous laboratories of the Scientific Research Institute of Terrestrial Magnetism, Ionosphere, and Radiowave Propagation (NIZMIR) are located 40 miles from Moscow. Here, observations are being made continuously under the IGY program. I. E. Mogilevskiy, Candidate of Physico-mathematical Sciences, chief of the Division of Solar Investigations, in an interview with K. Alekseyev and P. Aleksandrov, Trud correspondents, gave the following information on the work of the institute.

Each year the number of solar spots, flares, and prominences increases. These solar disturbances cause the aurorae and magnetic storms.

The Sun Service of the institute studies the state of the solar corona using a chromosphere-photosphere telescope. For observing the radio emissions of celestial bodies a radio telescope is used. Observations show that electrical particles, so-called corpuscular streams, are ejected from the active fields of the Sun (spots, flares, and prominences). These flows are deflected by the Earth's magnetic field toward the magnetic poles. Injected into the upper layers of the atmosphere, these charged particles induce its atoms and molecules to glow.

Magnetic storms arise due to the movement of corpuscular particles at an altitude of 100-200 kilometers where they cause electrical currents. They form a magnetic field in the surrounding space. Interacting with the Earth's magnetic field, they "agitate" the latter. The stronger the magnetic storm, the more intense are the aurorae, and the further south they can be observed.

The majority of natural phenomena, which are studied under the IGY program, are connected directly with disturbances emanating from the Sun.

The study of the intensity of cosmic rays and their connection with solar radiation at the institute is made under Kopylov, chief of the Division of Cosmic Rays. The composition of cosmic rays in the lower layers of the atmosphere is very complex. At the institute the rays are studied by using such Soviet-developed instruments as a neutron monitor and a stereoscopic telescope. Of special interest is the automatic ionization chamber, having a volume of 1,000 cubic liters. Outside, it resembles an enormous ball mounted on a tripod. Inside the steel housing are 8 tons of lead shot. The lead is necessary to permit the passage of only high-energy particles.

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Actually, the chamber is a small steel "bomb" filled with argon lying in the center of the lead mass. The creation of such apparatus and other new recording instruments succeeded as a result of the creativeness of the scientists and workers of the Moscow "Fizpribor" Plant.

The gravimetric station located on the NIZMIR grounds is under the supervision of Aleksandrov, scientific associate. This station is underground. The instruments in use here are set in concrete pits, tightly sealed by special covers. For each point of the Earth's surface there is a fixed value of the force of gravity, which can be measured by a gravimeter or a pendulum instrument. They register the curve of gravity oscillations with an accuracy up to 0.003 million parts of the total intensity. It has been theoretically established that the attraction of the Moon and Sun cause tides in the Earth's solid crust in the same way tides in the seas and oceans are caused. The magnitude of the tide in the Earth's crust is determined by the degree of its elasticity. It is theorized that Moscow's citizens are raised and lowered approximately 15 centimeters twice each 24 hours due to this unique "breathing." One of the problems in the station is the confirmation of this theory. (Moscow, Trud, 29 Sep 57)

IGY Activities of Yugoslav Scientists

According to Pavle Vujovic [spelled Vujevic in Ko je ko u Jugoslaviji (Who's Who in Yugoslavia], president of the Yugoslav National Commission for the IGY (Nacionalna komisija medjunarodne geofizicke godine) a Yugoslav reporter and five associates are assigned the task of properly informing foreign nations concerning Yugoslav scientific activities. The reporting of meteorological data is done in the customary way, but a special radio station is in operation to report on other activities by giving timely alerts to IGY world centers. The station transmits information daily about observations made and receives information from abroad concerning alerts and World Days.

The meteorological program is being carried out by all the appropriate institutions. Cloud layers near the Earth are being photographed for 4 months, and hourly observations of weather changes are made. The temperature of the ground is measured at various depths, and the moisture content of the Earth is measured at preselected places. Evaporation from water surfaces is measured as well as the gradients of various meteorological elements. The last task mentioned is being performed only at the station in Novi Beograd (New Belgrade). Radiosonde observations are made once each day in Zagreb and Split and twice daily in Belgrade. Observations are also made with the use of pilotballoons and nephoscopes at all the preselected places. In Belgrade, chemical analyses are made of rain water and of the carbon dioxide in the air, and the illumination of the Moon is observed at several fixed points. All these data are normally reported to the international center.

The Geomagnetic Observatory (Geomagnetska opservatorija) in Grocka is investigating the gravity of the Earth. Since December 1957 the absolute values of the Earth's magnetic field have been regularly determined and seasonal changes have been constantly followed. Investigation of the ionosphere also began in December 1957. The recorder used was under construction until the beginning of December 1957. Visual observations of aurorae are made at preselected points.

The Astronomical Observatory in Belgrade has ascertained the relative number of sunspots, made visual observations of prominences on the edge of the Sun, and determined the position and surface area of sunspots and of the facula. The observatory also calculates longitude and latitude. In 35 nights of observation during the second half of 1957, the momentary latitudinal width was determined. On the basis of 70 series of observations, several nights were required to determine constants for the instruments. In 71 nights of observation, the longitudinal length was determined on the basis of 71 series of observations of passages through the meridian. Transmissions of hourly signals were received each day, and calculations were finally completed in preparation for observations in 1958.

The program in oceanography for the second half of 1957 has been completely fulfilled. Measurements were made along the shore and in the open sea. The salt content and temperature of the sea water were determined, and measurements of evaporation were completed with the use of the ship Mines. Three periodic trips were made through the central and southern parts of the Adriatic Sea and in the northern part of the Ionian Sea where simultaneous measurements were made of sea currents, salt content, temperature, the lucidity of ocean water, and the acid and total phosphate content. Samples of sediment in the sea were taken, the density of colonies of bacteria was determined, and some other biological investigations were made.

All the stations selected for seismological work are operating normally, except the one in Titograd. The station in Ljubljana will begin operations at the beginning of 1958. The Seismological Bureau (Seizmoloski zavod) in Belgrade recorded five earthquakes which occurred in Yugoslavia in 1957 and observed microseismic disturbances four times daily.

Rocket research is under the jurisdiction of the Yugoslav Army, but a gravimetric program is being carried out in the course of normal work. (Belgrade, Tehnicke novine, 25 Mar 58)

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II. ROCKETS AND ARTIFICIAL EARTH SATELLITES

Awards for Sputnik Observers

Honorary certificates of the Astronomical Council of the Academy of Sciences USSR and commemorative medals were presented to a large group of persons who participated in observations of the Soviet artificial earth satellites. The presentation of 13 certificates and 25 medals was made in the Main Astronomical Observatory in Pulkovo, by A. A. Mikhaylov, Corresponding Member of the Academy of Sciences USSR. The workers so honored conducted successful visual and photographic observations of the satellites over the course of several months from the specially built observation station in Pulkovo. Many valuable photographs, which are now being carefully studied, were obtained. (Moscow, Pravda, 20 Apr 58)

Next Satellite Animal Passengers To Be Recovered, Says Soviet Scientist

A Budapest newspaper reports that Yu. A. Pobedonostev, whom it identifies as director of the "Soviet Institute of Aviation Research," told a meeting in Czechoslovakia of the Society for the Propagation of Political and Scientific Information that "experimental animals will be recovered from the next artificial satellites. The place of landing will be precalculated. The satellite will be observed by radio signals, and the precise landing spot will be determined." (Budapest, Esti Hirlap, 23 Nov 57)

Soviet Satellite Tracking Equipment for Hungary

In January 1958, the USSR gave Hungary 40 telescope similar to the AT-I which the Soviet stations have been using to track satellites.

According to Dr A. G. Masevich, who organized the satellite tracking stations in the USSR and represented the USSR at the congress of the International Astronautical Federation in Lisbon, there are 68 satellite tracking stations in the USSR.

Although the stations were first alerted on 24 September 1957, the real test alert was called on 1 October 1957, at which time the stations were to track over Moscow a small lamp attached to a jet plane.

At the close of the congress in Lisbon, Dr Masevich presented an AT-I telescope to the Spanish Astronautical Society. -- Ivan Almar (Budapest, Elet es Tudomany, No 13, 30 Mar 58, p 395)

[Note: Masevich said in a previously published article that there are 70 Soviet stations for visual observation of the satellites.]

Comment on Articles From Soviet Aviation Daily

An unsigned article in Sovetskaya Pechat' titled "The Fantasy Is Coming True," comments on recent articles from the Soviet daily Sovetskaya Aviatsiya.

It quotes V. S. Kulebakin as follows: "Soviet scientists recently have successfully solved the problem of 'the possibility of the feasibility' of controlled thermonuclear reactions. A great number of theoretical and experimental results has already been obtained in this direction."

The article also quotes V. Kaznevskiy, design engineer, on interplanetary travel: "The cosmic ship does not need to be streamlined. The outer shape will be unusual; it will consist of a series of spherical and cylindrical bodies with large, comfortable, spacious compartments for passengers, larger than the compartments in modern airplanes.

"The velocity of the Sputniks -- 8 kilometers per second -- would permit a takeoff from the earth to such planets as the Moon and Mars. The rapid development of rocket engineering gives reason to expect that within a few years flights to the nearest planets will be possible." (Sovetskaya Pechat', No 1, Jan 58, p 23)

III. METEOROLOGY

Lenin Prize Awarded to Prof M. I. Budyko

The award of a Lenin Prize to Prof M. I. Budyko, director of the Main Geophysical Observatory imeni A. I. Voyeykov, for his scientific work "The Heat Balance of the Earth's Surface," was announced by Academician A. Nesmeyanov, chairman of the Lenin Prize Committee for Science and Engineering.

Nesmeyanov said that Budyko and his team of scientific workers have created "a new field of climatology, the climatology of heat balance." The results of the work greatly contributed to the solution of different theoretical and practical problems in this field. (Moscow, Pravda, 22 Apr 58)

IV. UPPER ATMOSPHERE

Soviet Ionosphere Station

An article by B. L. Kashcheyev, B. G. Bondar' and Ye. G. Proshkin entitled "Ionosphere Station" describes a Soviet ionosphere observation station as follows:

Vertical sounding is a widely used method of studying the ionosphere. A number of ionosphere sounding devices are known which permit obtaining the altitude-frequency response. Investigation of the nonhomogeneous structure of the ionosphere layers is of great scientific and practical significance. Considering the attenuation at frequencies below 2.5-3.0 Mc, as well as frequencies on which a great number of stations conduct their ionosphere investigations, it is necessary for obtaining reliable experimental data to maintain the power of the transmitted pulse at 40-50 kw, while retaining the parameters of the other components of the ionosphere station similar to those of the standard ionosphere stations. Stations used for fine ionosphere structure investigation often have manual frequency retuning, rather than automatic. For simultaneous study of the processes in the E and F layers of the ionosphere it is advisable to have provisions for the station to operate on two frequencies simultaneously.

The block diagram of the station is as follows: the pulse transmitter of the station consists of a push-pull self-oscillator with inductive negative feedback. Because it is necessary to generate two waves simultaneously, the station has two oscillators with identical circuits. One of the oscillators generates a wave in the range of 1.5-5.0 Mc, and the other in the range of 4.5-9.0 Mc.

The circuit air-core induction coils are made of copper tubing. The circuit capacitors are either vacuum or ceramic type KVKG. For smooth coverage of the frequency range, each oscillator has variable-capacitance high-voltage air capacitors.

The oscillators operate with G-481 tubes. Plate modulation is used. The pulse voltage fed to the tube plate can be controlled in a wide range by changing the voltage at the primary winding of the high-voltage transformer. The maximum voltage that can be applied at the plate is 15 kv.

The pulse is shaped by an artifical line. The artificial line consists of seven Γ-shape sections. Various values of the section inductance, to improve the shape of video pulses, were found experimentally.

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The line is discharged through a controlled mercury discharger. Firing of the discharger is accomplished by the pulse generator synchronized by the line frequency. The pulse generator is a limiter with a differentiating circuit at the output.

The load impedance of the pulse transformer is changed if the operation is performed with one self-oscillator instead of two. To match the load with the line, the number of turns in the primary winding of the transformer is changed.

The shape of the radiated radio-pulses is essential, which are influenced by incompleteness of the frequency modulation of the radiated pulses. To that effect a resonance wavemeter with a diode detector is utilized. The detected signal is fed to the oscilloscope. The changes of the video-pulses on the screen of the oscilloscope, during the retuning of the wavemeter, permit one to judge the frequency spectrum of the pulse and matching of load with the artificial line.

When operating with one of the two self-oscillators, the transmitter will deliver 40-50 kw of power to the tuned antenna.

The station has three superheterodyne receivers. The output of one receiver is fed to the control marker, and the output of the other two receivers is connected to a marker intended for photoregistration of amplitudes of pulses reflected from the ionosphere. The construction of the receivers is similar and they possess practically identical characteristics. Only one receiver is used when the measurements are conducted on a single frequency.

The mean amplification factor of the receiver along the whole range is 10^6 and the band pass is from 0.7 to 17 kc. The amplitude characteristic is linear in the range from zero to 80 v at the output of the intermediate frequency amplifier of the receiver.

The receiver operates on two bands: from 1.4 to 4 Mc and from 3.0 to 11 Mc.

The receiver has a diode detector and a low-frequency amplifier. This permits to utilization of the detected sounding pulse as a trigger pulse, if the receiver and the marker are located far away from the transmitter.

To protect the receivers from overloading by the sounding pulse, low-voltage neon bulbs are connected to the output of the receivers. The receivers have symmetrical outputs connected to the horizontal symmetrical dipoles.

In the receiver the output of which is connected to the control marker the last stage of the intermediate frequency amplifier is placed in the marker unit.

A two-beam tube with an after-acceleration anode is used for registering the amplitudes of pulses reflected from the ionosphere.

The sweep circuit of the marker consists of a trigger device, a generator of linearly changing voltage, and a paraphase amplifier.

The circuit elements are selected in such a manner that the duration of the type "A" scan corresponds to 800 km. The circuit has provisions for the control of the scan duration.

The firing of the trigger device is actuated by the voltage taken from a part of the turns of the pulse transformer. From the trigger device the pulse enters the cathode of the marker tube to brighten the operating portion of the linearly changing voltage, as well as the generator of linearly changing voltage.

The amplitude of the linearly changing voltage is great, thus permitting a detailed examination of the shape of the reflected pulses.

For obtaining the time calibration marks, a surge-excitation circuit is used connected to the cathode circuit of the triode. The circuit is tuned to the frequency of 3 kc, permitting the obtaining of a distance of 50 km between the marks. Experience has shown that the use of marks placed at a distance less than 50 km from each other is inconvenient. The excitation of the circuit is actuated by a negative pulse fed to the tube from the "surge" circuit of the trigger device.

In addition to the scan unit and calibrator described, there is a control marker with a two-beam tube. One beam of this tube is used for viewing the reflected pulses for altitudes up to 1,000 km with marks for each 100 km; the second beam is used for viewing any of the 100-m sections with its expansion over the whole width of the screen and marks for each 10 km. This permits conduct of measurements with an accuracy of 1-2 km.

The calibration circuits have provisions for removal of the marks so as not to distort the amplitude of the reflected pulses.

The images from the screen of the tube are photographed on a 35 mm film. Photographing can be done either with a motion-picture camera or by a special film-drive device.

Such a film will show the sounding pulses and the reflected magnetically split components from the ionosphere. Such components can be photographed with the aid of a film-drive device.

The film speed in the film-drive can be controlled within a wide range. At a film speed of 50 mm per sec or greater, it is possible to register each pulse.

The pulses with greater amplitude correspond to the extraordinary waves, and the pulses with smaller amplitude to the ordinary waves.

The ionosphere station has provisions for quick change from motion-picture photographing to photoregistration.

Two wide-band symmetrical dipoles and one conical antenna are used as the transmitting antennas. The longer of the dipoles radiates on frequencies from 1.5 to 3.5 Mc; the second dipole operates on frequencies from 3.5 to 6.5 Mc and the conical antenna up to 9 Mc.

The antennas are tuned with the aid of variometers and capacitors connected into the split of the two-wire feeder. The length of feeders connecting the antennas with the transmitters is selected in such a manner that, when taking into consideration the parameters of the dipoles (also accounting for the effect of the ground), it would be easy to secure an ohmic input resistance.

The authors express their thanks to V. V. Tolstoy, P. S. Kovtun, and N. I. Sova, who participated in the building of the ionosphere station.

This article was recommended for publication by the Chair of Theoretical Principles of Radio Engineering, Khar'kov Polytechnic Institute imeni V. I. Lenin.

The article is accompanied by the following photographs and circuit diagrams: (1) general view of the ionosphere station, (2) block diagram of the ionosphere station, (3) schematic diagram of the ionosphere station transmitter, (4) movie film of images on the marker screen of the ionosphere station, (5) sample of a film of images made on the oscillograph screen during simultaneous operation of two self-generators of the station, and (6) sample of a film showing each reflection of a pulse from the ionosphere in which both ordinary and extraordinary components are visible (Izvestiya Vysshikh Uchebnykh Zavedeniy, Radiotekhnika, No 1, Jan-Feb 58, pp 76-[illegible])

V. OCEANOGRAPHY

Sedov's First IGY Voyage

Among the Soviet expeditionary ships engaged in the IGY program is the Sedov, a modern sailing ship equipped with the latest navigation instruments.

The Sedov expedition was organized in accordance with the plan of the IGY to perform assigned duties in that part of the South Atlantic Ocean between the Azores and the Cape Verde Islands.

The work of the expedition will include the study of temperature distribution and currents at different levels throughout the depths of the ocean; the conduct of meteorological, actinometric, and aerometeorological observations; and the study of minute plant and animal organisms, geology and the bottom relief of the ocean, and the hydrochemical composition of the sea waters. The ship has a well-equipped laboratory, and is outfitted with the latest apparatus of Soviet design, some of which will be used for the first time. Among these latter are automatic instruments for recording atmospheric phenomena, electrical instruments for automatically registering temperature variations at great depths, new models of self-printing current meters for measuring the direction and velocity of currents at various levels, thermodepth gauges, electrical telethermometers for direct temperature readings at different depths, instruments for measuring the elements of waves, soil probes, bottom scoops, plankton nets, and many other instruments.

The first voyage of the Sedov began on 25 September 1957. Sailing from Kronshtadt, it passed through the Baltic, North Sea, English Channel, and Bay of Biscay, past the coasts of Spain and Portugal, and into the Atlantic, where it set up its first 24-hour station about 140 kilometers southwest of Cape San Vincent, Portugal, on the Gettysburg Banks. At this station the Sedov dropped anchor in 40 meters of water. Studies on tidal currents far from shore were conducted there, in addition to the usual observations. New information on the nature of the tidal currents and their strength and force at different levels was gathered.

Leaving this station, the ship went southward crossing into the tropics on 2 November. Continuing south, it reached the Cape Verde Islands on 7 November. In this part of the ocean barograph recordings revealed the well-expressed phenomena of tides in the atmosphere. Here, also, the news of the launching of the second Soviet satellite was received.

After completing its work in the tropical part of the Atlantic, the Sedov sailed north, skirting the eastern edge of the Sargasso Sea, went up past the Azores, and, after a month and a half of voyaging, again arrived at the Gettysburg Banks. Here the ship dropped anchor on 4 December. After further observations at this spot the Sedov sailed for Sevastopol by way of Gibraltar and the Mediterranean Sea. The Sedov was greeted at Sevastopol on 24 December. It will remain there for a short time while it is being prepared for another voyage in the Atlantic, where it will continue its scientific work.

During its 3 months at sea, the Sedov covered 10,800 miles, sailing in seven seas and the Atlantic Ocean.

As a result of the investigations conducted in the Atlantic, much material was obtained on the distribution of temperature and the salinity of the waters from the surface down to great depths and on the speed and direction of currents at different levels. Soil samples from various depths and about 400 plankton specimens were collected. The presence of tidal currents in the open sea was observed. Aerologists and meteorologists gathered much material through observations on the velocity and direction of the wind, the temperature of the water and air, atmospheric phenomena, solar radiation, and the moisture content of the air.

Although the basic work was finished, there remains much more for the meteorologists to do. Meteorological surveys, 24-hour weather forecasts, and, in particular, atmosphere observations were conducted continuously.

Among the personnel participating in the expedition are M. M. Kazanskiy, Candidate of Physicomathematical Sciences, scientific leader of the expedition; Academician V. V. Shuleykin, chief of the Interdepartmental Atlantic Expedition; P. S. Mitrofanov, commander of the Sedov; Sokolov, radar operator; Belolikov, ship's meteorologist; Fakhardinov, engineer, Zhidkov, chief radio operator; Shestakov and Oradovskiy, engineer-hydrologists, Glinskiy and Nikiforovskiy, workers of the Marine Hydrophysical Institute of the Academy of Sciences USSR; Mamikonov, ship's physician; Labunov, engineer-ichthyologist, Makarov, engineer-hydrologist; Yegorov, technician; Gil'mutdinov, navigator; and P. Yerofeyev and V. Nikiforovskiy. (Moscow, Izvestiya, 2 Mar 58; Moscow, Sovetskiy Flot, 11, 12, and 14 Jan 58)

VI. ARCTIC AND ANTARCTIC

Soviet Drift Stations

The drift station Severnyy Polyus-7 is now located about 400 kilometers from the North Pole. The ice island of the station Severnyy Polyus-6, which began its drift in April 1956, occupies a very large area, about 75 square kilometers. During the past 2 years, the ice island of Severnyy Polyus-6 has remained almost unchanged. Severnyy Polyus-6 is now about 600 kilometers north of the island Novaya Sibir'.

According to a map published in Pravda, the location of Severnyy Polyus-6 as of 5 April 1958 was about 81 degrees N and 150 degrees E, and the location of Severnyy Polyus-7 was about 87 degrees N and 150 degrees W. (Moscow, Pravda, 5 Apr 58)

Lena Comes to Aid of Polish Scientist

On 20 March, Viktor Yavorovskiy, a member of the Polish scientific expedition conducting IGY research in Horn Sund on Spitsbergen, became seriously ill and it was urgently necessary to take him to a hospital. At this time the Soviet ship Lena was about 250 miles away from Spitsbergen. After receiving a radio call for help, Captain Vetrov of the Lena immediately proceeded to Spitsbergen. Despite stormy weather, the Lena soon reached its destination and the patient was taken aboard and brought to Murmansk. (Moscow, Komsomol'skaya Pravda, 29 Mar 58)

Operations at Kheys Observatory

The advent of the "polar day" -- that is, the coming of spring -- to the Island of Kheys, Franz Josef Land, marks a change in the life of the workers at the Soviet observatory there. After the confinement of the long winter months, the men spend all of their free time outdoors.

This change, however, does not interfere with the scientific observations conducted there under the IGY program. K. K. Fedchenko, chief of the scientific observatory, reports that the work is done as regularly and systematically as during the winter months, and meteorological rockets are launched as punctually now as they were during the polar night. (Moscow, Pravda, 23 Apr 58)

Ob' Conducts Research in Antarctic

During February 1958, the marine expedition on the Ob' explored the coastal zone of Antarctica east of Mirnyy, covering a distance of about 3,000 kilometers. Many hundreds of kilometers of the coastline had not been explored before and its outline as shown on previously published maps was inaccurate. These inaccuracies have now been corrected. The marine expedition was greatly aided by Mikhaylenko and Kaminskiy, polar aviators, and Kirillov, navigator. The Soviet scientists, including Professor Markov, the biologist Kirpichnikov, and the geologists Klimov, Solov'yev, and others, made several flights to the coast and landed in several places on the continent, where they collected some valuable samples. Especially on George V Coast, a group of scientists discovered remnants of an ancient arboreal vegetation, which had grown in Antarctica over 100 million years ago. At the same time, oceanographic, geophysical, hydrobiological, aerometeorological, and other types of research were conducted in the coastal zone. (Moscow, Vechernyaya Moskva, 18 Feb 58)

Ob' Enters Western Hemisphere

On 29 March, the Ob' was sailing in Ross Sea when it encountered a hurricane. The barometer dropped to 725 millimeters. All oceanographic work had to be discontinued. At noon the waves were about 10-12 meters high. Several hours later, the wind reached a speed of 45 meters per second and visibility was almost zero. After 21 hours, the barometer ceased to fall. Because of the huge waves which had washed over the ship's deck, all oceanographic winches were flooded. It took 5 hours to put the winches back in working order.

On 2 April, the Ob' crossed the 180th degree of longitude and entered the Western Hemisphere. (Moscow, Vodnyy Transport, 5 Apr 58)

Kooperatsiya Returns to Northern Hemisphere

The Kooperatsiya has been sailing in the Indian Ocean for 45 days. On 28 March the ship crossed the equator. The Kooperatsiya left the Northern Hemisphere in November-December 1956, when the ship was sailing to the Antarctic.

The members of the Antarctic Expedition on board the Kooperatsiya are processing their scientific materials. Scientific seminars were held aboard the ship, during which P. Shumskiy, Doctor of Geographical Sciences, gave a number of reports on the participation of Soviet scientists in a symposium, and O. Borshchevskiy, deputy chief of the Antarctic Marine Expedition, gave talks on the research work conducted on board the Ob'.

The Kooperatsiya maintains regular communications with Moscow, the observatory at Mirnyy, the expedition ship Ob', and the whaling flotilla Slava. Recently the Kooperatsiya established contact with the new oceanographic ship Mikhail Lomonosov, which is in the North Atlantic.

On 3 April, the Kooperatsiya was near the coast of northeast Africa and passed Cape Guardafui. (Moscow, Vodnyy Transport, 3 Apr 58)

Soviet Scientist Assigned to US Station

Several foreign scientists, including one from the USSR, are working in the Central Antarctic Weather Bureau, at the US station "Little America" on the coast of Ross Sea.

The Soviet scientist V. I. Rastorguyev, who spent the antarctic winter at "Little America," is on his way back to the Soviet Union. He will be replaced by P. D. Astapenko, Candidate of Geographical Sciences and docent at the Leningrad Hydrometeorological Institute. Astapenko will work as a meteorologist in the Central Antarctic Weather Bureau. The main task of this bureau is the preparation of weather forecasts for all stations in Antarctica. (Leningradskaya Pravda, 18 Feb 58)

Station Sovetskaya

The Soviet station Sovetskaya, which was organized in February 1958, represents the final point on the route to be traveled during the period of the current antarctic summer. The new research base, which is to be moved further inland later on, is located 1,420 kilometers from Mirnyy. The station staff, consisting of five persons, is headed by Vitaliy Babarykin. During the forthcoming antarctic fall and winter season, the scientists will conduct regular meteorological, aerological, actinometric, and glaciological observations under the IGY program. On 12 February, a temperature of minus 52 degrees C was recorded at the station.

The Soviet expedition now has six scientific stations on the antarctic continent: Mirnyy, Pionerskaya, Oazis, Komsomol'skaya, Vostok, and Sovetskaya. (Tallin, Sovetskaya Estoniya, 15 Feb 58)

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